

PROJECT DESCRIPTION

GENERAL
This project involves the reconstruction of the existing traffic control signal at MD 198 and Sweitzer Lane in Prince George's County. As part of this project, the northbound right turn from Sweitzer Lane will be signalized and a third lane will be added to eastbound MD 198. MD 198 is assumed to run in an east-west orientation. Phase 1 involves the construction of the northbound right turn lanes.

INTERSECTION OPERATIONS
The intersection will operate in a NEMA six phase, semi-actuated mode with the MD 198 approaches running concurrently. The Sweitzer Lane approaches will operate as split phases. Exclusive left turn phasing will be provided on the MD 198 approaches. An alternate pedestrian phase will be provided across the west leg of MD 198. During phase 1, the signal will operate in fixed-time.

CONTROLLER REQUIREMENTS
Install a full-traffic-actuated, eight phase controller with four (4) , four channel, time-delay-output loop detector amplifier, intersection monitor with battery back-up for phone drop, telemetry module in a NEMA size "6" base mounted cabinet. The contractor shall deliver the cabinet to Mr. Ed Rodenhizer at 7491 Connelley Drive, Hanover MD 21076 at least 72 hours prior to installation for wiring and testing.

MAINTENANCE OF TRAFFIC

THE FOLLOWING WORK ZONE TRAFFIC CONTROL STANDARDS SHALL BE USED FOR THE PROJECT:

STANDARD NO. MD-104.44-01 (LEFT LANE CLOSURE)

STANDARD NO. MD-104.45-01 (RIGHT LANE CLOSURE)

STANDARD NO. MD-104.48-01 (INTERSECTION LEFT LANE/TURN BAY CLOSURE)

STANDARD NO. MD-104.02-01 (FLAGGING OPERATION)

STANDARD NO. MD-104.03-01 (INTERSECTION FLAGGING)

PROJECT CONTACTS

THE CONTACT PERSONS FOR DISTRICT #3 ARE AS FOLLOWS:

MR. CHARLIE K. WATKINS
DISTRICT ENGINEER
(301) 513-7311

MR. JOE GECKLE
ASSISTANT DISTRICT ENGINEER - UTILITY
(301) 513-7350

MR. MAJID SHAKIB
ASSISTANT DISTRICT ENGINEER - TRAFFIC
(301) 513-7358

MR. RICHARD L. DAFF, SR.
CHIEF, TRAFFIC OPERATIONS DIVISION
(301) 787-7630

MR. RANDY BROWN
ASSISTANT DISTRICT ENGINEER - MAINTENANCE
(301) 531-7304

MR. BARRY KING
CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION
(410) 787-4011

POWER COMPANY REPRESENTATIVE:

BALTIMORE GAS AND ELECTRIC
MR. JOE BRAUCH
7317 PARKWAY DRIVE SOUTH
HANOVER, MD 21076

PHASE CHART

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|--------------------|------|------|------|------|------|------|------|------|------|------|------|-------------|------|------|------|------|------|-------|-------|
| | | | | | | | | | | | | | | | | | | | |
| PHASE 1 + 5 * | -G | -G | R | R | -G | -G | R | R | R | R | R | -G | -G | -G | R | R | R | DW | DW |
| 1 + 5 CHANGE | -Y | -Y | R | R | -Y | -Y | R | R | R | R | R | SEE NOTE #2 | | | R | R | R | DW | DW |
| PHASE 1 + 6 | -G | -G | G | G | -R | -R | R | R | R | R | R | FL/R | FL/R | FL/R | R | R | R | DW | DW |
| 1 + 6 CHANGE | -Y | -Y | Y | Y | -R | -R | R | R | R | R | R | FL/R | FL/R | FL/R | R | R | R | DW | DW |
| PHASE 2 + 5 | -R | -R | R | R | -G | -G | G | G | R | R | R | -G | -G | -G | R | R | R | DW | DW |
| 2 + 5 CHANGE | -R | -R | R | R | -Y | -Y | Y | Y | R | R | R | -Y | -Y | -Y | R | R | R | DW | DW |
| PHASE 2 + 6 | -R | -R | G | G | -R | -R | G | G | R | R | R | FL/R | FL/R | FL/R | R | R | R | DW | DW |
| 2 + 6 CHANGE | -R | -R | Y | Y | -R | -R | Y | Y | R | R | R | FL/R | FL/R | FL/R | R | R | R | DW | DW |
| PHASE 3 | -R | -R | R | R | -R | -R | R | R | R | R | R | FL/R | FL/R | FL/R | G | -G | G | DW | DW |
| 3 CHANGE | -R | -R | R | R | -R | -R | R | R | R | R | R | FL/R | FL/R | FL/R | Y | Y | Y | DW | DW |
| PHASE 3 ALT. | -R | -R | R | R | -R | -R | R | R | R | R | R | FL/R | FL/R | FL/R | G | -G | G | WALK | WALK |
| PED. CLEAR | -R | -R | R | R | -R | -R | R | R | R | R | R | FL/R | FL/R | FL/R | G | -G | G | FL/DW | FL/DW |
| 3 ALT. CHANGE | -R | -R | R | R | -R | -R | R | R | R | R | R | FL/R | FL/R | FL/R | Y | Y | Y | DW | DW |
| PHASE 4 | -R | -R | R | R | -R | -R | R | R | -G | -G | G | -G | -G | -G | R | R | R | DW | DW |
| 4 CHANGE | -R | -R | R | R | -R | -R | R | R | Y | Y | Y | -G | -G | -G | R | R | R | DW | DW |
| FLASHING OPERATION | FL/R | FL/R | FL/Y | FL/Y | FL/R | FL/R | FL/Y | FL/Y | FL/R | FL/R | FL/R | FL/R | FL/R | FL/R | FL/R | FL/R | FL/R | DARK | DARK |

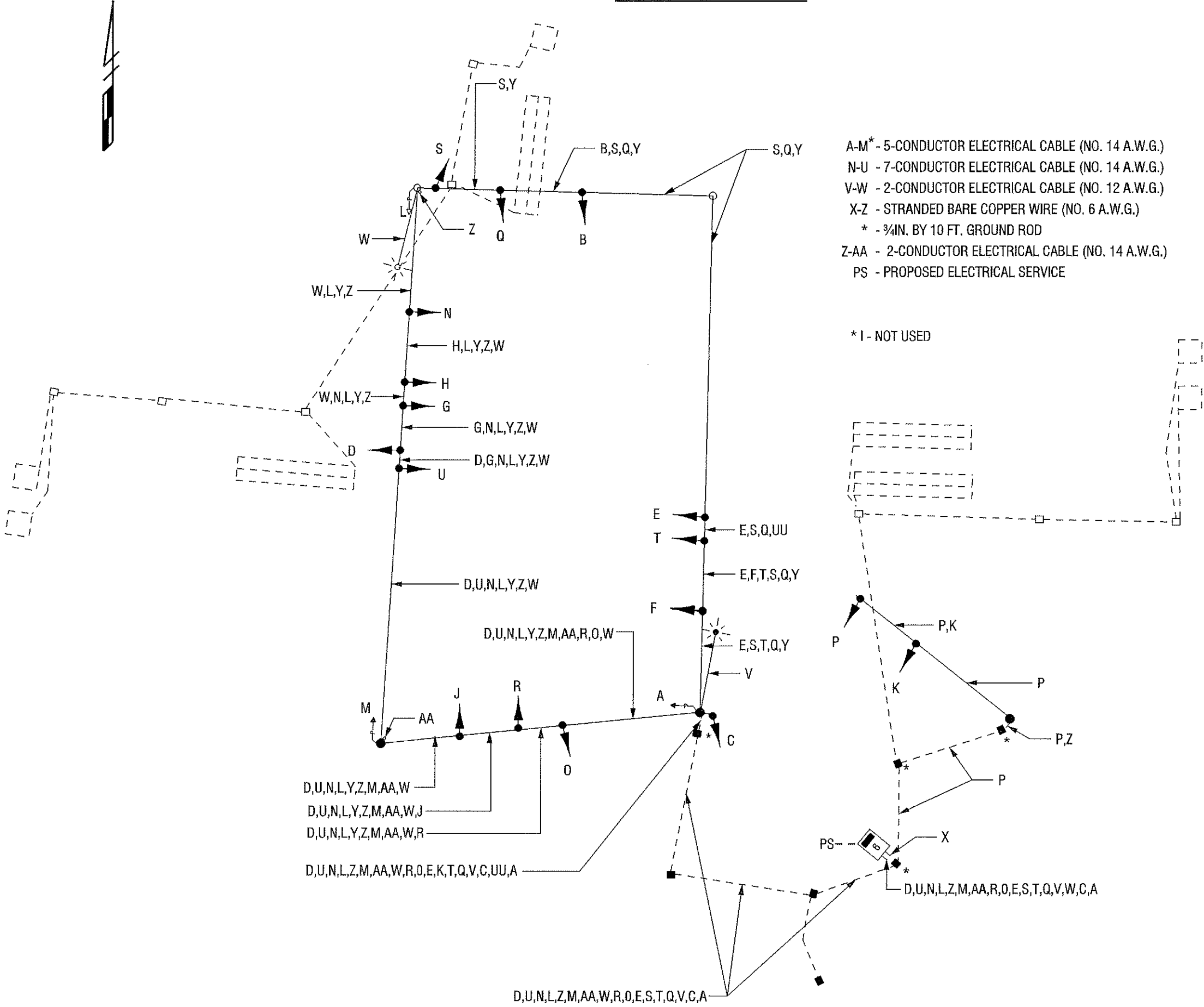
PHASING NOTES
① PHASE 1 + 5 MAY CHANGE TO PHASE 1 + 6 OR PHASE 2 + 5
② IF PHASE 1 + 5 CHANGES TO PHASE 2 + 5, THEN DISPLAY -G- FOR SIGNALS 12 AND 13 OTHERWISE DISPLAY FL/R

TIME OF DAY / DAY OF WEEK / HOLIDAY PHASING

SIGNALS 12, 13 AND 14 WILL OPERATE IN RED FLASH DURING WEEKDAY NON-PEAK HOURS, WEEKENDS AND HOLIDAYS.

THE SIGNALS WILL OPERATE AS SHOWN IN THE ABOVE PHASING CHART DURING WEEKDAY PEAK HOURS.
PEAK HOURS ARE FROM 7 AM - 9 AM, AND 4 PM TO 6 PM.

WIRING DIAGRAM



A-M* - 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
N-U - 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
V-W - 2-CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.)
X-Z - STRANDED BARE COPPER WIRE (NO. 6 A.W.G.)
* - 3/4IN. BY 10 FT. GROUND ROD
Z-AA - 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
PS - PROPOSED ELECTRICAL SERVICE

* I - NOT USED

EQUIPMENT LIST A

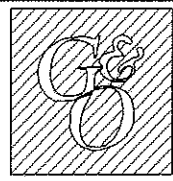
EQUIPMENT TO BE SUPPLIED BY THE SHA

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|---|--------|---|
| 900000 | 4 EACH | 12 IN., ONE-WAY, THREE-SECTION (R,Y,G) BLACK POLYCARBIDE TRAFFIC SIGNAL HEAD - SPAN MOUNT |
| 900000 | 1 EACH | 12 IN., ONE-WAY, THREE SECTION (RA,YA,GA) BLACK POLYCARBIDE TRAFFIC SIGNAL HEAD - SPAN MOUNT |
| 900000 | 3 EACH | 12 IN., ONE-WAY, FOUR-SECTION (R,Y,G,GA) BLACK POLYCARBIDE TRAFFIC SIGNAL HEAD - SPAN MOUNT |
| 900000 | 2 EACH | 12 IN., ONE-WAY, THREE SECTION (RA,YA,GA) BLACK TRAFFIC SIGNAL HEAD - MAST ARM MOUNT POLYCARBIDE |
| 900000 | 1 EACH | 12 IN., ONE-WAY, THREE SECTION (RA,YA,GA) BLACK TRAFFIC SIGNAL HEAD - POLE MOUNT POLYCARBIDE |
| 900000 | 1 EACH | 12 IN., ONE-WAY, TWO-SECTION (DON'T WALK, WALK) PEDESTRIAN SIGNAL HEAD WITH ADJUSTABLE BRACKET FOR STRAIN POLE MOUNTING AND CUTAWAY VISORS-POLE MOUNT |
| 971017 | 1 EACH | EIGHT-PHASE FULL-TRAFFIC-ACTUATED, SOLID STATE DIGITAL CONTROLLER WITH INTERSECTION MONITOR WITH BATTERY BACK-UP FOR PHONE DROP, HOUSED IN A NEMA SIZE '6' BASE MOUNTED CABINET |
| 900000 | 4 EACH | FOUR-CHANNEL, TIME DELAY OUTPUT, LOOP DETECTOR AMPLIFIER |
| SHEET ALUMINUM SIGNS: | | |
| 1 EACH - W9-2(4)L, 'LANE ENDS MERGE LEFT', SIGN (42" X 30") - SPAN WIRE MOUNT | | |
| 1 EACH - R10-6(1), 'PROCEED ON FLASHING RED AFTER STOP', (60" X 36") - MAST ARM MOUNT | | |
| 1 EACH - SHIELD ASSEMBLY (30" X 51") - POLE MOUNT | | |
| 1 EACH - SHIELD ASSEMBLY (48" X 75") - POLE MOUNT | | |

EQUIPMENT LIST B

EQUIPMENT TO BE FURNISHED OR INSTALLED BY THE CONTRACTOR

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|--------|----------|---|--------|--------|---|--------|----------|--|
| 130850 | LUMP SUM | MOBILIZATION | 866104 | 1 EACH | FURNISH AND INSTALL 20 FT. LIGHTING BRACKET FOR TRAFFIC SIGNAL STRUCTURE | 805140 | 52 LF | FURNISH AND INSTALL 4 IN. SCHEDULE 80 PVC ELECTRICAL CONDUIT (TRENCHED) |
| 120500 | LUMP SUM | MAINTENANCE OF TRAFFIC | 838003 | 1 EACH | CONTROL AND DISTRIBUTION EQUIPMENT | 837001 | 3 EACH | FURNISH AND INSTALL GROUND ROD - 3/4 IN. DIAMETER BY 10 FT. LENGTH |
| 203030 | 2 CY | TEST PIT EXCAVATION | 800000 | 1 EACH | FURNISH AND INSTALL 12 IN. BY 32 FT STRAIN POLE (TWO PLY), ANCHOR BOLTS WILL BE 2 1/4 IN. BY 96 IN. | 800000 | 12 EACH | INSTALL SIGNAL HEAD |
| 130840 | LUMP SUM | CONSTRUCTION STAKEOUT | 818036 | 1 EACH | FURNISH AND INSTALL MAST ARM POLE WITH 50 FT. MAST ARM | 871117 | 1 EACH | INSTALL CONTROLLER AND CABINET BASE MOUNT |
| 801004 | 10 CY | FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION | 831010 | 1 EACH | FURNISH AND INSTALL 250 WATT HPSV LUMINAIRE WITH PHOTOCCELL | 813015 | 62 SF | INSTALL SHEET ALUMINUM SIGNS |
| 869102 | 212 LF | FURNISH AND INSTALL STEEL SPAN WIRE - 3/8 IN. DIAMETER | 805125 | 78 LF | FURNISH AND INSTALL 2 IN. SCHEDULE 80 PVC ELECTRICAL CONDUIT (TRENCHED) | 813006 | 1 EACH | RELOCATE EXISTING SIGN: 1 EACH - D3-2, DUAL FACED(16" X VAR.) - SPAN WIRE MOUNT |
| 869101 | 288 LF | FURNISH AND INSTALL STEEL BOTTOM SPAN WIRE - 1/4 IN. DIAMETER | 805135 | 32 LF | FURNISH AND INSTALL 3 IN. SCHEDULE 80 PVC ELECTRICAL CONDUIT (TRENCHED) | 210030 | 3 EACH | REMOVE AND DISPOSE OF EXISTING FOUNDATION 12 IN. BELOW GRADE |
| 811001 | 7 EACH | FURNISH AND INSTALL ELECTRICAL HANDHOLE | 805115 | 65 LF | FURNISH AND INSTALL 3 IN. SCHEDULE 80 PVC ELECTRICAL CONDUIT (BORED) | 800000 | LUMP SUM | REMOVE AND DISPOSE OF EXISTING EQUIPMENT |
| 861116 | 162 LF | FURNISH AND INSTALL ELECTRICAL CABLE - 2-CONDUCTOR (NO. 12 A.W.G.) | 805118 | 34 LF | FURNISH AND INSTALL 4 IN. SCHEDULE 80 PVC ELECTRICAL CONDUIT (BORED) | 800000 | LUMP SUM | REMOVE AND DELIVER EXISTING CABINET, CONTROLLER AND SIGNAL POLES |
| 861104 | 917 LF | FURNISH AND INSTALL ELECTRICAL CABLE - 2-CONDUCTOR (NO. 14 A.W.G.) | | | | | | |
| 861107 | 1431 LF | FURNISH AND INSTALL ELECTRICAL CABLE - 5-CONDUCTOR (NO. 14 A.W.G.) | | | | | | |
| 861108 | 1982 LF | FURNISH AND INSTALL ELECTRICAL CABLE - 7-CONDUCTOR (NO. 14 A.W.G.) | | | | | | |
| 802501 | 504 LF | FURNISH AND INSTALL STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.) | | | | | | |



GREENHORNE & O'MARA, INC.
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ANNAPOLIS, MD - ATLANTA, GA - BALTIMORE, MD - FAIRFAX, VA - ORLANDO, FLA
TAMPA, FLA - WEST PALM BEACH, FLA - RALEIGH, NC - ROCKVILLE, MD, GREENBELT, MD

(TSP-2)

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| REVISIONS | | APPROVALS | |
| | | ORIGINAL | |
| | | ASST. TRAFFIC ENGINEERING DESIGN DIVISION | |
| | | ON | |
| | | ASST. DISTRICT ENGINEER, TRAFFIC | |
| | | CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION | |
| | | FILE | |
| | | DIRECTOR, TRAFFIC & SAFETY | |
| June 1999 Signal reconstruct due to geometric improvements KAR JMC | | February 6, 1997 Install split phase NB/SB Sweitzer Lane FJH DD BK TH | |
| DRAWN BY: D. ANDREWS CHECKED BY: S. RENZI SCALE: 1" = 20' DATE: AUGUST 22, 1985 | | F.A.P. NO. N/A S.H.A. NO. 855-16001 COUNTY: Prince George's LOG MILE: 16001980.67 | |
| TS NO. 2110 C T.L.M.S. NO. | | SHEET NO. 54 OF 64 | |